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1 June 2020

Online at <https://mpra.ub.uni-muenchen.de/104862/>
MPRA Paper No. 104862, posted 30 Dec 2020 16:07 UTC

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Abstract

This paper examines how contextual and institutional factors are associated with individual subjective wellbeing during the COVID-19 pandemic. Using data collected in China, Korea, Japan, Italy, the United Kingdom (UK), and the United States (US) in April 2020, we found that the financial effects (represented by employment and income change) and non-financial effects (representing by experiencing negative feelings and enjoying positive activities) of the pandemic are associated with individual wellbeing. Moreover, the degree to which people agree with their government's approach to COVID-19 is positively correlated with their happiness. The risks associated with the pandemic, however, are only slightly associated with people's happiness. We also found that the correlation between above factors and individual wellbeing varied from country to country.

1. Introduction

Since the first case was identified in Wuhan, China, in early January 2020, COVID-19 has quickly spread to more than 200 countries and territories, with more than 5.3 million people infected and nearly 350,000 deaths (Wikipedia 2020). Although the mortality rate is comparatively low, COVID-19's infection rate is high, with the virus spreading faster than other deadly viruses. Due to the speed and severity of infection, the COVID-19 pandemic has emerged as one of the greatest public health crises in recent decades. To deal with this pandemic, governments around the world have enacted a series of policies to slow the spread and prevent transmission, such as closing borders, imposing travel bans, and implementing lockdowns and quarantine. According to WEFForum (2020), by the end of April 2020, there were about 2.6 billion people, or one-third of the total global population, living under some type of lockdown or quarantine. Such policies have profoundly affected the lives of billions of people around the world in financial and non-financial ways.

Many studies have examined the effects of this pandemic on economic growth (McKibbin, and Fernando 2020), on the livelihoods of various groups of people (Glover et al. 2020;),

inequality (Alon et al. 2020), firm activities (Inoue and Todo 2020), labor markets (Gottlieb et al. 2020; Fadinger and Schymik 2020), and international trade (Baldwin and Evenett 2020). However, there are few studies on how the COVID-19 pandemic has affected other aspects of wellbeing, such as mental health (De Pedraza et al. 2020).

This study aims to fill the gap by examining how people's happiness and unhappiness are associated with financial and non-financial effects of the pandemic, their beliefs about the severity and risks of the disease, and their perceptions of government approaches. We use the data collected during the third week of April 2020 in six countries: China, Korea, Japan, Italy, the UK, and the US. We find that both the financial and non-financial effects of the pandemic are associated with people's happiness and unhappiness. Such correlations, however, differ from country to country. Our empirical results also suggest that the extent to which people agree with their government's approach to the pandemic is positively correlated with their happiness. Their perceptions of the effectiveness of containment measures are also associated with their happiness. The risks of the pandemic, however, are not strongly associated with people's happiness.

This paper contributes to the literature examining the impacts of COVID-19 on individual welfare. De Pedraza et al. (2020) examined life dissatisfaction and anxiety during the COVID-19 pandemic in 25 countries and found that job-related changes due to COVID-19 are associated with dissatisfaction and anxiety. Government measures for coronavirus containment also increase dissatisfaction and anxiety. This paper differs from that of Pedraza et al. (2020) in several ways. Our sample seems to be more representative, with the data from each of the six countries being sufficient to allow us to control for differences in a country's epidemiological dynamics by running regression models for each country. Our empirical approach also differs slightly. We model individual happiness as a function of both the positive and negative non-financial effects and the financial effects of COVID-19, while de Pedraza et al. (2020) modeled non-financial effects as a function of financial effects.

This study also contributes to the literature on the determinants of happiness in several ways. First, with regards to institutional factors, this study attempts to link reported individual wellbeing with individual-level measures of institutional factors, while previous literature relied on country-level or regional-level institutional factors. The country-level or regional-level factors could be more exogenous to individual wellbeing than individual-level measures. However, it is more difficult to disentangle the direct effects of institutional factors on individuals' subjective wellbeing since country-level and regional-level factors may indirectly affect individuals' subjective wellbeing through other macro-variables such as inflation, employment, and income. Second, in cross-country studies, countries usually differ in many ways. Therefore, it is difficult to isolate the effects of particular institutions on individuals' wellbeing (Frey and Stutzer 2000). This problem is less acute if the institutional variations occur either within a country or during a major global event such as the COVID-19 pandemic. Our institutional variations are based on variations in the responses of different governments to the same global event and, thus, make them more appropriate for cross-country analysis.

The paper is structured as follows. Section 2 provides a brief review of the literature on the factors determining individual happiness. Section 3 documents the data source, our measurement of variables, and empirical approaches. Section 4 reports the empirical results, followed by the concluding remarks in section 5.

2. Brief literature review

Since the manual work of Easterlin (1974), the study of happiness has gradually shifted into the gamut of economics. Especially since the late 1990s, there has been a growing number of studies that have analyzed the determinants of happiness in different countries and periods (Frey and Stutzer 2010; Graham 2009). According to Frey and Stutzer (2010), studying the economics of happiness is relevant for several reasons. First, people's wellbeing is an essential component of the economy and society. Economics, by itself, is or should be about individual happiness. Second, studying happiness provides new answers to various issues concerning the

welfare effects of income, unemployment, and inflation. Such insights help in the design of appropriate economic policies, which may mitigate the costs, including non-peculiar costs, of achieving individual welfare. Third, happiness research can help governments develop appropriate institutions.

Previous studies have identified sources of individual wellbeing, including socio-economic factors, contextual and situational factors, and institutional factors. With regard to socio-economic factors, studies have shown that women tend to be happier than men; the young and the old are happier than the middle-aged, and even age and happiness have a non-linear relationship (Appleton and Song 2008; Kusago 2007). While some found that income is also a major determinant of happiness (Frey and Stutzer 2000; Ball and Chernova 2008), others have found income has only a minor effect or a diminishing effect beyond a certain threshold (Boes and Winkelmann 2010; Clark et al. 2008; Vendrik and Woltjer 2007). Meanwhile, employment has been found to have a positive impact on life satisfaction, as it is essential for one to work to earn a sufficient living. Clark and Oswald (1994) and Winkelmann and Winkelmann (1998) have shown that unemployment is correlated with substantial unhappiness.

Institutional factors such as governance, accountability, or effectiveness of governance also determine individual wellbeing. Previous evidence suggests people are happier with their lives in countries having better governance quality (Helliwell 2003; Helliwell and Huang 2008; Helliwell et al. 2018; Ngoo et al. 2020). According to Helliwell et al. (2018), there are two major sets of institutional characteristics that affect individual wellbeing. The first is related to the reliability and responsiveness of governments in their design and delivery of services. The second set is the presence and pervasiveness of key features of democratic electoral elections and representation. In the context of an unexpected global shock such as the COVID-19 pandemic, the reliability and responsiveness of the government tend to strongly affect people's wellbeing. If a government's approach to the COVID-19 pandemic is in line with its citizens' expectations, it may improve their happiness.

Contextual and situational factors, such as particular employment conditions, stress at the workplace, interpersonal relationships with work colleagues, relatives, and friends, and living conditions and health, also affect life satisfaction (Frey and Stutzer 2000; Rodríguez-Pose and Maslauskaite 2012). There is evidence to suggest that personal and social contact and support, the conditions in areas where people live, and private freedoms are good predictors of happiness and life satisfaction (Bjørnskov 2008; Lim and Putnam 2010; Sujarwoto et al. 2018). The COVID-19 pandemic has provided an excellent context in which to analyze individual wellbeing and happiness. The measures that governments around the world have implemented to contain the spread of COVID-19 have had substantial and far-reaching impacts on people's lifestyles, their employment status, the way they work, their environmental surroundings, and the way they interact and communicate with each other. These changes will have significant financial and non-financial effects. These effects are expected to be associated with individual happiness.

3. Data and empirical approach

3.1 Data

Data used in this study were collected in six countries, including China, Italy, Japan, Korea, the UK, and the US. These countries were selected because they were at different stages of the pandemic at the time of the survey, and they had each responded to the pandemic differently (Belot et al. 2020). Table 1 presents the number of cases in each country by the third week of April and May 2020.

[INSERT TABLE 1 HERE]

In each country, around 1,000 individuals participated in the survey. The sample is nationally representative of age, gender, and household income. The data were collected in the third week of April 2020. Potential participants were drawn from several different samples to which the survey firm had access. Individuals were initially contacted via email to participate in the online survey. The survey team invited new individuals to participate in the survey to

ensure the representativeness of the sample in three dimensions: age, gender, and household income¹. The data are available at the website: <https://osf.io/aubkc/>

3.2 Variable construction

In Table 2, we explained how information from the survey are used to construct our independent variables (unhappiness and happiness) and covariates used in our regression analyses.

[INSERT TABLE 2 HERE]

3.3. Summary statistics

Table 3 presents some summary statistics for the whole sample. The summary statistics for each country are reported in Online Appendix 1. About 37% of respondents reported not being happy at the time the survey was conducted. Notably, nearly half of the Italians in the sample reported being unhappy, while about 30% of Chinese respondents indicated they were unhappy. Of these, 6.63% of the respondents stated they were extremely unhappy. Italy and China were the two countries with the highest and lowest proportion of individuals who felt extremely unhappy. About 85% of individuals had experienced at least a positive non-financial effect from the societal changes occurring due to the pandemic, while the share of individuals experiencing at least a negative non-financial effect was also high at 80%. Only 5.37% of the sample had lost their job permanently, while nearly 25% had lost their job temporarily. The data also showed that almost 50% had experienced a decline in income. More than 50% of respondents in the sample agreed with their government's approach to the COVID-19 pandemic, while only 15% disagreed. Most individuals in the sample stated they believed the measures to contain COVID-19 were effective. It is interesting to note that more than one-fifth of the sample indicated their belief that those who are infected would die.

[INSERT TABLE 3 HERE]

¹ For details, see Belot et al. 2020

3.3. Empirical approach

Based on the existing literature, the estimate equation would be as follows:

$$P(Unhappy_i) = \Phi(\alpha_0 + \alpha_1 NegExp_i + \alpha_2 PosExp_i + \alpha_3 JobChn_i + \alpha_4 IncShock_i + \alpha_5 Belief_i + \alpha_6 GovPol_i + \alpha_7 X_i) \quad (1)$$

in which $Unhappy_{it}$ is a dummy variable indicating individual i is unhappy; $PosExp_i$ and $NegExp_{it}$ are two variables capturing the positive and negative non-financial effects of the COVID-19 pandemic; $JobChn_{it}$ and $IncShock_{it}$ are two sets of financial effects of the COVID-19 pandemic relating to changes in employment status and household income; $GovPol_{it}$ is a set of five degrees of agreement with the government's approach to the COVID-19 pandemic; $Belief_{it}$ is a set of people's beliefs regarding the spread of the pandemic in their local area, the risk of getting infected themselves, and the risk of several complications that may arise once a person becomes infected; X_{it} is a set of socio-economic factors including individual age, gender, regions, living arrangement (such as living alone, living in a household with others, etc.), and income quintiles.

We also estimated an ordered probit model as follows:

$$Happy_i^* = Z'_i * \beta + \eta_i \quad (2)$$

of which, $Happy_i^*$ is an unobserved latent variable, indicating individual i 's happiness; Z_i is a set of independent variables, which include all independent variables in question (1), and η_i is the error term. The observed ordinal value of happiness, $Happy_i$ takes on the value 1 (extremely unhappy) through 7 (extremely happy), according to the following scheme:

$$Happy_i = j \Leftrightarrow \mu_{j-1} < Happy_i^* < \mu_j ; j = 1 \dots 7$$

The probability that individual i will select alternative j is:

$$\begin{aligned} p_{ij} &= prob(Happy_i = j) = prob(\mu_{j-1} < Happy_i^* < \mu_j) \\ &= \Phi(\mu_j - Z'_i * \beta) - \Phi(\mu_{j-1} - Z'_i * \beta) \end{aligned} \quad (3)$$

We estimate Equations (1) and (2) using both pooled data (i.e., cross-country) and each country data.

Before going further, we discuss some caveats that necessitate the cautious interpretation of our empirical results. First, at the time the survey was conducted, each country was at a different stage in the pandemic, and the governments of these countries had taken different approaches to contain COVID-19. For example, by that time, China and Korea had appeared to control the spread of COVID-19, while other countries had at this stage only limited control over the virus. However, there are other sources of cross-country variation, such as culture, institutions, governments, etc. Therefore, as Belot et al. (2020) suggested, the results of cross-country analyses should be interpreted cautiously. Second, the estimation results could suffer from endogeneity bias. We tried to include as many observable variables in our estimation as possible. Some variables, such as education level, were not collected. Unobservable factors such as personality may also affect both outcome variables (happiness) and independent variables, especially subjective variables such as non-financial effects. Reverse causality may even exist. For example, if people are unhappy, their viewpoints on all aspects measured may be negative, including their government's approach to COVID-19. Therefore, our estimation results should be interpreted as indications of correlation rather than causality.

4. Empirical results

Table 4 presents our results estimation of Equation (1) using pooled data (column 1), with samples of Chinese, Korean, Japanese, Italian, British, and American respondents (columns 2 to 7, respectively). Our results show that people who have experienced negative non-financial effects are more likely to be unhappy than those who have not experienced these effects. Meanwhile, experiencing positive non-financial effects is negatively associated with being unhappy. The associations between the non-financial effects of the COVID-19 pandemic are observed in all countries, except for the case of China and Japan. Chinese and Japanese who experienced at least a positive non-financial effect were not less unhappy than those who did not.²

² We also constructed other indicators such as negative and positive intensity indices (which are the sum of all negative effects and of all the positive effects that one experience) and the aggregate non-financial

[INSERT TABLE 4 HERE]

Financial effects are also associated with happiness and unhappiness. Our estimation shows that experiencing a decline in household income is positively correlated with unhappiness. This association is observed in almost all countries (except for the UK), although the estimated coefficients differed from country to country. A fall in household income increased the likelihood of being unhappy among Korean and Chinese by 12.2 and 11.5 percentage points, while the figures for Japanese, Italian, and American varied by only 7.5 to 9 percentage points. The difference may reflect the increased effectiveness of the social welfare net among the latter group of countries than in Korea and China.

Those who enjoyed no change in employment status were less likely to be unhappy than those who had lost their jobs, while no difference could be observed between those who had lost their job temporarily and those who had lost their job permanently. However, the estimated coefficients on job status variables seemed to be driven by the Korean and Italian samples since we did not observe any significant association between employment status and unhappiness in China, Japan, the UK, and the US.

People's unhappiness was negatively associated with the extent to which they agreed with their government's approach to the pandemic. For example, those who strongly agreed with their government's approach were more likely to be happy than those who strongly disagreed, by 22.9 percentage points. This association was observed in all countries, except China, where the extent to which people agreed with the Chinese government's approach was not related to their unhappiness. Our empirical results, however, show that people's perceptions of the effectiveness of containment measures were not correlated with their unhappiness.

Similarly, our results using a pooled sample also show that belief about the severity of

effects (which is equal to positive intensity index minus negative intensity index). Our estimation results using such indices are qualitatively consistent with the results presented in this section. The available results are available upon request.

the pandemic in their living areas and the risk of several kinds of complications were associated with being unhappy, but the magnitude of this correlation was rather small. The associations among these variables and people's unhappiness also differed from country to country and were somewhat limited.

With respect to other control variables, we find that men tended to be more unhappy than women, especially among Koreans and Japanese. This is partly because the financial burden on Koreans and Japanese seems to be larger since Japanese and Korean women tend to leave the labor force when they get married. During the pandemic, those in the wealthier quintiles seemed to be less likely to be unhappy than those who are in the poorer quintile. However, this correlation appears to be driven by the US sample since we did not observe the association between the income quintile and unhappiness in other countries.

Table 5 details how each indicator of the negative and positive non-financial effects of the COVID-19 pandemic was associated with individual unhappiness. Our results show that almost all negative non-financial effects of the COVID-19 pandemic were positively associated with being unhappy. In nearly all countries, experiencing boredom, loneliness, trouble sleeping, and general anxiety and stress was generally correlated with being unhappy. Conflicts with friends, relatives, and neighbors were associated with unhappiness only among Koreans. Among positive non-financial effects, we found that those who believed the COVID-19 pandemic provides them with more free time (and more time with family) and reduces noise pollution were less likely to be unhappy. However, the relationship between each positive non-financial effect and unhappiness differed from country to country. Even for Japanese, none of the perceived positive non-financial effects of the pandemic made them less unhappy, while for Chinese, only enjoying more time with family seemed to make them less unhappy.

[INSERT TABLE 5 HERE]

Table 6 reports our estimation results of Equation (2), using an ordered probit model

and pooled sample.³ Our results show that, similar to the results presented in Table 3, in which a dummy variable indicates a value of one as being unhappy, both the non-financial and financial effects of the COVID-19 pandemic were associated with the degree of happiness. Those experiencing negative non-financial effects such as boredom and loneliness reported being less happy than those who did not experience such effects. Meanwhile, enjoying positive non-financial effects such as more free time and reduced noise pollution was associated with being happier. Those who lost their job permanently due to the pandemic were unhappier than those whose employment status remained unchanged. Those who agreed with their government's approach to the COVID-19 pandemic reported being happier than those who strongly disagreed. In general, the results obtained from the ordered probit model were consistent with the results using the probit model, either using the pooled sample or using each country sample.

[INSERT TABLE 6 HERE]

5. Conclusion

This paper examined factors that are associated with the unhappiness of individuals in six countries during the COVID-19 pandemic: China, Korea, Japan, Italy, the UK, and the US. Using recent data collected during the third week of April 2020, we found that both COVID-19-induced financial effects such as job loss or a decline in income, and non-financial effects, including experiencing positive and negative effects of the pandemic, were associated with individual wellbeing. We also found that being happy is positively associated with the extent to which an individual agrees with their government's approach to the COVID-19 pandemic. Meanwhile, happiness was not found to be strongly associated with their belief in the severity of the pandemic or the risk of complications arising once a person is infected. Our estimation results suggest that the magnitude of the correlation between each of the above factors and happiness differs from country to country. The results were quite consistent regardless of the

³ The results using each country sample are presented in the online appendices OA2-OA7.

estimation methods we used (either probit or ordered probit with an ordinal degree of happiness).

Our empirical results have several policy implications. First, governments should not only focus on mitigating the financial and economic effects of the pandemic but also take into account non-financial effects since both financial and non-financial effects are strongly associated with individual wellbeing. Second, having an appropriate set of policies to deal with the crisis is not enough to improve people's wellbeing. The government should either provide evidence of the effectiveness of such policies to the public or convey their message more effectively to garner support from their citizens for their policies. This will help to improve individuals' wellbeing and, thus, social welfare.

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Table 1: Number of cases in selected countries

	23-Apr-20	22-May-20
China	82,804	82,971
Korea	10,708	11,142
Japan	12,829	16,519
Italia	189,973	228,658
United Kingdom	138,078	254,195
United States	862,605	1,589,223

Source: Wikipedia (2020)

Table 2: Definition and measurement of variables

Variables	Questions in survey	Measures
Level of happiness (dependent variable)	How happy do you feel these days? ^a	= 1 if the response is “Extremely unhappy”. = 2 if the response is “Moderately unhappy”. = 3 if the response is “Slightly unhappy”. = 4 if the response is “Neither happy nor unhappy”. = 5 if the response is “Slightly happy”. = 6 if the response is “Moderately happy”; = 7 if the response is “Extremely happy”
Being unhappiness (dependent variable)	Question: How happy do you feel these days? Answer:	= 1 if the respondent answers either “extremely unhappy”; “Moderately unhappy” and “Slightly unhappy” = 0 otherwise (i.e. neither happy nor unhappy; slightly happy; moderately happy; and extremely happy)
Financial/Economic effects: Change in employment status	Have you lost your job or has your activity (as self-employed) been stopped as a consequence of the COVID-19 pandemic	= 1 if the response is “Yes, permanently” = 2 if the response is “Yes, temporarily” = 3 if the response is “No”
Financial/Economic effects: Household income	Have you experienced a fall in household income as a consequence of the COVID-19 pandemic?	= 1 if the response is “Yes” = 0 if the response is “No”
Negative non-financial effects	Have you experienced any negative non-financial effects from the societal changes occurring due to the epidemic, such as: 1. Boredom 2. Loneliness 3. Trouble sleeping 4. General anxiety and stress 5. Increased conflict with friends and relatives and neighbor 6. Others	= 1 if the respondent experienced at least one negative effects = 0 otherwise
Positive non-negative effects	Have you experienced any positive non-financial effects from the societal changes occurring due to the epidemic, such as (select all that apply): 1. Enjoying more free time 2. Enjoying time with family 3. Reduction of air pollution 4. Reduction of noise pollution 5. Other (please specify)	= 1 if the respondent enjoyed at least one positive effects = 0 otherwise
Agreement with government approach	Do you agree with the current approach taken by your government in response to the pandemic?	= 1 if response is “Strongly disagree” = 2 if response is “Somewhat disagree” = 3 if response is “Neither agree nor disagree” = 4 if response is “Somewhat agree” = 5 if response is “Strongly agree”
Effectiveness of containment measures	How effective do you believe each of these measures is in reducing the spread of the epidemic? 1. Shutting down schools 2. Shutting down public	For each measures, there are five answering options: Not effective at all; Slightly effective; Moderately effective; Very effective; Extremely effective

	transport	
	3. Shutting down non-essential businesses	For each of seven measures, we assigned a score of 0 if the response is "Not effective at all" and a score of 1 otherwise.
	4. Limiting mobility outside home	
	5. Forbidding mass gatherings	To calculate variable relating to effectiveness of containment measure, we sum up the our newly assigned score for each measure. The aggregate score ranges from zero to seven. For ease of interpretation, we calculated z-score
	6. Introducing fines for citizens that don't respect public safety measures	
	7. Requiring masks to be worn outside by everyone	
Belief: Fraction of infected people	What fraction of people in your local area do you think are currently infected?	Fraction in percentage points % (integers 0-100)
Belief: Probability of being infected	What do you think is the probability that you are or have been infected with Covid 19?	Probability in percentage points % (integers 0-100)
Belief: Prob. of infection without symptom	What do you think is the probability that an infected person develops no symptoms	Probability in percentage points % (integers 0-100)
Belief: Probability of serious illness, not requiring hospitalization	What do you think is the probability that an infected person develops a serious illness (stay in bed) without requiring hospitalization	Probability in percentage points % (integers 0-100)
Belief: Probability of a serious illness, requiring hospitalization	What do you think is the probability that an infected person develops a serious illness that requires hospitalization	Probability in percentage points % (integers 0-100)
Belief: Probability of dying if infected	What do you think is the probability that an infected person dies	Probability in percentage points % (integers 0-100)
Gender	What is your gender?	
Age	How old are you?	= 1 if between 18 and 25 = 2 if between 26 and 35 = 3 if between 36 and 45 = 4 if between 46 and 55 = 5 if between 56 and 65 = 6 if between 66 and 75 = 7 if above 75 = 8 if refused to answer
Income	In what range is the gross annual income of your household?	= 1 if the response is in the range of first quintile; = 2 if the response is in the range of second quintile = 3 if the response is in the range of third quintile = 4 if the response is in the range of fourth quintile = 5 if the response is in the range of fifth quintile = 6 if the response is "Prefer not to answer"
Regions		Dummy variables for 22 provinces in China; 20 provinces in Italia; 8 regions in Japan; 16 provinces in Korea; 12 regions in the UK and 4 states in the US.

^a This question has been widely used and been validated by previous studies (Frey and Stutzer 2010; Oswald and Wu 2011; Sujarwoto et al. 2018).

Table 3: Summary statistics: all countries

Unit: %

	Mean	Sta. Dev.
Well-being indicators		
Not happy these days	37.30	48.36
Extremely unhappy	6.63	24.89
Moderately unhappy	11.50	31.90
Slightly unhappy	19.17	39.36
Neither happy nor unhappy	33.01	47.03
Slightly happy	13.47	34.14
Moderately happy	13.17	33.82
Extremely happy	3.05	17.21
Financial and non-financial effects		
Experience negative non-financial effects	80.59	39.56
Experience positive non-financial effects	85.65	35.06
Permanent job loss	5.37	22.55
Temporary job loss	24.77	43.17
No change in employment	69.86	45.89
Experienced a fall in household income	49.33	50.00
Agreement with government approach		
Strongly disagree	6.08	23.89
Somewhat degree	9.20	28.90
Neither agree nor disagree	20.51	40.38
Somewhat agree	32.67	46.90
Strongly agree	31.55	46.47
Effectiveness of containment measures		
Shutting down schools	66.38	47.24
Shutting down public transport	63.44	48.16
Shutting down non-essential businesses	62.70	48.36
Limiting mobility outside home	66.74	47.12
Forbidding mass gatherings	79.90	40.08
Introducing fines for citizens that don't respect public safety measures	63.85	48.05
Requiring masks to be worn outside by everyone	64.67	47.80
Beliefs and perceptions		
Fraction of infected people	21.41	23.19
Probability of infected people without symptom	34.66	27.09
Probability of serious illness without requiring hospitalization	32.18	25.54
Probability of a serious illness that requires hospitalization	32.68	27.65
Probability of an infected people would die	21.80	26.36
Male	48.43	49.98

Source: Author's calculation

Table 4: Being unhappy during the covid-19 pandemic (marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	China	Korea	Japan	Italy	UK	US
Negative non-financial effects	0.273*** [0.017]	0.236*** [0.056]	0.332*** [0.049]	0.116*** [0.035]	0.368*** [0.041]	0.358*** [0.040]	0.307*** [0.041]
Positive non-financial effects	-0.099*** [0.018]	-0.119 [0.117]	-0.101** [0.050]	-0.049 [0.033]	-0.169** [0.070]	-0.121*** [0.041]	-0.104** [0.041]
Job loss							
Temporary job lost	-0.034 [0.029]	0.092 [0.068]	-0.206** [0.088]	-0.032 [0.094]	-0.116** [0.057]	0.010 [0.068]	-0.050 [0.060]
No change in employment status	-0.081*** [0.028]	0.072 [0.070]	-0.306*** [0.086]	-0.066 [0.087]	-0.102* [0.058]	-0.071 [0.067]	-0.085 [0.060]
Experienced a fall in household income	0.093*** [0.013]	0.119*** [0.032]	0.118*** [0.032]	0.079** [0.032]	0.092*** [0.034]	0.039 [0.034]	0.077** [0.033]
Agreement with the current government approach							
Somewhat degree	-0.057* [0.032]	0.034 [0.236]	-0.085 [0.089]	-0.090 [0.059]	-0.081 [0.069]	-0.099 [0.084]	0.020 [0.074]
Neither agree nor disagree	-0.193*** [0.028]	-0.206 [0.225]	-0.207*** [0.076]	-0.194*** [0.051]	-0.175*** [0.068]	-0.303*** [0.077]	-0.174*** [0.066]
Somewhat agree	-0.198*** [0.027]	-0.187 [0.220]	-0.270*** [0.076]	-0.180*** [0.056]	-0.153** [0.059]	-0.318*** [0.071]	-0.171*** [0.059]
Strongly agree	-0.224*** [0.028]	-0.256 [0.220]	-0.240*** [0.077]	-0.166* [0.088]	-0.204*** [0.063]	-0.312*** [0.073]	-0.168*** [0.060]
Effectiveness of containment measures (aggregate, z-score)	0.001 [0.006]	-0.003 [0.017]	0.011 [0.018]	-0.003 [0.013]	-0.027 [0.018]	-0.011 [0.016]	0.019 [0.015]
Belief							
Fraction of infected people	-0.001** [0.000]	-0.002** [0.001]	-0.001 [0.001]	-0.001 [0.001]	-0.001* [0.001]	0.001 [0.001]	0.000 [0.001]
Probability of being infected	0.000 [0.000]	-0.001 [0.001]	0.000 [0.001]	0.001* [0.001]	0.002** [0.001]	-0.000 [0.001]	0.001 [0.001]
Prob. of infection without symptom	0.000 [0.000]	0.001 [0.001]	0.001 [0.001]	0.000 [0.001]	-0.000 [0.001]	-0.001 [0.001]	-0.000 [0.001]
Probability of serious illness, not requiring hospitalization	0.001** [0.000]	0.003*** [0.001]	-0.001 [0.001]	-0.001 [0.001]	0.000 [0.001]	0.001 [0.001]	-0.000 [0.001]
Probability of a serious illness, requiring hospitalization	-0.001*** [0.000]	-0.001 [0.001]	-0.000 [0.001]	-0.001 [0.001]	-0.000 [0.001]	-0.001 [0.001]	-0.001 [0.001]
Probability of dying if infected	0.001***	0.001	0.002**	0.003***	0.001	0.001	0.000

	[0.000]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Gender	0.027**	0.026	0.062**	0.087***	-0.041	-0.017	0.034
	[0.012]	[0.028]	[0.031]	[0.030]	[0.030]	[0.029]	[0.031]
Income groups							
Second quintile	-0.015	-0.003	0.017	0.006	0.004	-0.024	-0.053
	[0.020]	[0.049]	[0.050]	[0.046]	[0.051]	[0.047]	[0.050]
Third quintile	-0.038**	-0.042	-0.065	0.050	0.032	-0.036	-0.132***
	[0.019]	[0.049]	[0.048]	[0.046]	[0.050]	[0.047]	[0.049]
Forth quintile	-0.041**	-0.090*	-0.029	-0.030	0.061	-0.048	-0.115**
	[0.020]	[0.047]	[0.050]	[0.047]	[0.050]	[0.049]	[0.050]
Firth quintile	-0.033	-0.069	-0.012	-0.006	0.025	-0.034	-0.095*
	[0.021]	[0.052]	[0.053]	[0.052]	[0.056]	[0.051]	[0.056]
Preferred not to say	-0.003		-0.013	0.018	0.156	0.003	-0.102
	[0.042]		[0.076]	[0.089]	[0.108]	[0.110]	[0.116]
N	6085	994	962	1011	1042	1015	1054

Note: Dependent variable is being unhappy, a dummy variable which takes value of one if the individual reported “extremely unhappy”, “Moderate unhappy” and “Slightly unhappy” Standard errors in brackets; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Negative non-financial effect and positive non-financial effect are two dummy variables if individuals experienced negative feeling or enjoy positive activities during the pandemic. The reference group for job loss variables is groups of those lost job permanently because of the covid-19. Experienced a fall in household income is a dummy variable indicating those who experienced reduction in household income because of the pandemic. The reference groups for degree of agreement with government approach is those who strongly disagree (with the government approach). Effectiveness of containment measures is the number of measures that respondents think to be effective to contain virus. We calculate z-score for this variable. The reference group for income groups is group of those who are in the first quintile (poorest). In all specifications, we controlled for individual age, living arrangement, whether they contacted with any infected person, whether they had any covid-19 symptom, whether they accessed to open air areas in their living areas, whether they travelled abroad since January 2020, and whether they kept distance from their colleagues and regions they live.

Source: Belot et al. (2020)’s data and authors’ estimation

Table 5: Non-financial effects and being unhappy (marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	China	Korea	Japan	Italy	UK	US
Boredom	0.079*** [0.012]	0.119*** [0.028]	0.060* [0.031]	-0.009 [0.032]	0.077*** [0.029]	0.079*** [0.027]	0.100*** [0.029]
Loneliness	0.149*** [0.013]	0.091*** [0.029]	0.185*** [0.038]	0.156*** [0.043]	0.196*** [0.029]	0.148*** [0.030]	0.081*** [0.030]
Trouble sleeping	0.096*** [0.014]	0.073** [0.030]	0.052 [0.045]	0.083 [0.052]	0.104*** [0.030]	0.141*** [0.028]	0.104*** [0.030]
General anxiety and stress	0.160*** [0.012]	0.164*** [0.027]	0.167*** [0.029]	0.051* [0.030]	0.242*** [0.027]	0.159*** [0.028]	0.157*** [0.029]
Conflict with friends, relatives, and neighbors	0.042** [0.020]	0.003 [0.048]	0.135*** [0.052]	0.059 [0.054]	0.014 [0.048]	0.071 [0.049]	0.050 [0.049]
Other negative feelings	0.030 [0.044]		0.058 [0.114]	-0.023 [0.095]	0.068 [0.121]	0.128 [0.124]	-0.019 [0.084]
Enjoying more free time	-0.077*** [0.012]	-0.008 [0.032]	-0.115*** [0.033]	0.021 [0.033]	-0.080*** [0.030]	-0.130*** [0.028]	-0.147*** [0.029]
Enjoying time with family	-0.060*** [0.013]	-0.062* [0.036]	-0.011 [0.032]	-0.028 [0.033]	-0.045 [0.030]	-0.108*** [0.030]	-0.080*** [0.030]
Reduction of air pollution	-0.013 [0.014]	0.028 [0.031]	-0.065** [0.032]	-0.028 [0.044]	-0.002 [0.038]	-0.006 [0.032]	0.001 [0.032]
Reduction of noise pollution	-0.031** [0.015]	-0.031 [0.033]	-0.073* [0.040]	0.076 [0.055]	-0.068** [0.033]	0.009 [0.034]	-0.061* [0.035]
Other positive effects	-0.059 [0.045]	0.195 [0.214]	-0.010 [0.130]	0.048 [0.111]	-0.104 [0.115]	-0.094 [0.101]	-0.127 [0.082]
Other covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	6085	993	962	1011	1042	1015	1054

Note: Dependent variable is being unhappy, a dummy variable which takes value of one if the individual reported “extremely unhappy”, “Moderate unhappy” and “Slightly unhappy” Standard errors in brackets; * p < 0.1, ** p < 0.05, *** p < 0.01. This table is similar to Table 3 (please refer to note to Table 3), except that we replace two dummies variables indicating negative and positive non-financial effects by indicators indicating that individuals experience each of six negative feelings and enjoying each of five positive activities.

Source: Belot et al. (2020)’s data and authors’ estimations

Table 6: Individual happiness during the covid-19 pandemic (pooled sample, marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Extremely unhappy	Moderatel y unhappy	Slightly unhappy	Neither happy nor unhappy	Slightly happy	Moderatel y happy	Extremely happy
Negative non-financial effects	0.084*** [0.005]	0.087*** [0.005]	0.073*** [0.004]	-0.021*** [0.003]	-0.066*** [0.004]	-0.113*** [0.006]	-0.044*** [0.003]
Positive non-financial effects	-0.039*** [0.005]	-0.040*** [0.005]	-0.034*** [0.004]	0.010*** [0.002]	0.030*** [0.004]	0.052*** [0.007]	0.020*** [0.003]
Job loss							
Temporary job lost	-0.015 [0.009]	-0.014* [0.008]	-0.010* [0.006]	0.007 [0.005]	0.011* [0.006]	0.016* [0.009]	0.005* [0.003]
No change in employment status	-0.028*** [0.009]	-0.027*** [0.008]	-0.021*** [0.006]	0.010** [0.005]	0.021*** [0.006]	0.033*** [0.009]	0.012*** [0.003]
Experienced a fall in household income	0.027*** [0.004]	0.028*** [0.004]	0.023*** [0.003]	-0.007*** [0.001]	-0.021*** [0.003]	-0.036*** [0.005]	-0.014*** [0.002]
Agreement with the current Government's approach							
Somewhat degree	-0.046*** [0.014]	-0.030*** [0.009]	-0.011*** [0.003]	0.031*** [0.010]	0.024*** [0.007]	0.026*** [0.008]	0.006*** [0.002]
Neither agree nor disagree	-0.085*** [0.013]	-0.065*** [0.008]	-0.034*** [0.004]	0.052*** [0.009]	0.051*** [0.006]	0.064*** [0.007]	0.017*** [0.002]
Somewhat agree	-0.093*** [0.012]	-0.075*** [0.008]	-0.042*** [0.003]	0.055*** [0.009]	0.058*** [0.006]	0.076*** [0.007]	0.022*** [0.002]
Strongly agree	-0.108*** [0.013]	-0.094*** [0.008]	-0.060*** [0.004]	0.055*** [0.009]	0.072*** [0.006]	0.102*** [0.008]	0.032*** [0.003]
Effectiveness of measures (aggregate, z-score)	-0.004** [0.002]	-0.004** [0.002]	-0.003** [0.001]	0.001** [0.000]	0.003** [0.001]	0.005** [0.002]	0.002** [0.001]
Belief							
Fraction of infected people	-0.000** [0.000]	-0.000** [0.000]	-0.000** [0.000]	0.000** [0.000]	0.000** [0.000]	0.000** [0.000]	0.000** [0.000]
Probability of being infected	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]
Probability of infected people with no symptom	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]
Probability of serious illness without requiring hospitalization	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]

Probability of a serious illness that requires hospitalization	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]
Probability of an infected people would die	0.000*** [0.000]	0.000*** [0.000]	0.000*** [0.000]	-0.000*** [0.000]	-0.000*** [0.000]	-0.000*** [0.000]	-0.000*** [0.000]
Male	0.005 [0.003]	0.005 [0.003]	0.004 [0.003]	-0.001 [0.001]	-0.004 [0.003]	-0.007 [0.004]	-0.003 [0.002]
Income groups							
Second quintile	-0.012** [0.006]	-0.011** [0.006]	-0.009** [0.004]	0.004** [0.002]	0.009** [0.004]	0.014** [0.007]	0.005** [0.002]
Third quintile	-0.016*** [0.006]	-0.016*** [0.005]	-0.013*** [0.004]	0.006*** [0.002]	0.012*** [0.004]	0.020*** [0.007]	0.007*** [0.002]
Forth quintile	-0.021*** [0.005]	-0.022*** [0.006]	-0.018*** [0.004]	0.006*** [0.002]	0.016*** [0.004]	0.027*** [0.007]	0.010*** [0.003]
Firth quintile	-0.021*** [0.006]	-0.021*** [0.006]	-0.017*** [0.005]	0.006*** [0.002]	0.016*** [0.005]	0.027*** [0.007]	0.010*** [0.003]
Preferred not to say	-0.003 [0.013]	-0.003 [0.012]	-0.002 [0.009]	0.001 [0.005]	0.002 [0.009]	0.004 [0.014]	0.001 [0.005]
Number of observations	6085						

Note: Dependent variable is ordinal degree of happiness ranging from extremely unhappy to extremely happy. Standard errors in brackets; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
All covariates used in this table is similar to those in Table 3. Please refer to note to Table 3.
Source: Belot et al. (2020)'s data and authors' estimations

Individual well-being during the COVID-19 pandemic

Online appendices

Table OA1: Summary statistics for each country

		China	Italia	Japan	Korea	UK	US
Well-being indicators							
Not happy these days	Mean	30.12	46.07	35.07	39.77	37.01	35.55
	Sd.	45.90	49.87	47.74	48.97	48.31	47.89
Extremely unhappy	Mean	2.31	11.02	6.01	6.33	6.99	6.92
	Sd.	15.03	31.32	23.78	24.37	25.51	25.39
Moderately unhappy	Mean	7.73	15.90	8.97	11.53	11.61	12.99
	Sd.	26.72	36.59	28.58	31.95	32.06	33.63
Slightly unhappy	Mean	20.08	19.16	20.10	21.91	18.41	15.64
	Sd.	40.08	39.37	40.09	41.39	38.77	36.34
Neither happy nor unhappy	Mean	24.70	36.78	42.27	45.69	24.70	24.64
	Sd.	43.15	48.24	49.42	49.84	43.15	43.11
Slightly happy	Mean	22.59	7.38	14.29	7.17	16.04	13.36
	Sd.	41.84	26.15	35.01	25.80	36.72	34.04
Moderately happy	Mean	17.67	8.43	7.00	6.33	19.09	20.09
	Sd.	38.16	27.80	25.52	24.37	39.32	40.09
Extremely happy	Mean	4.92	1.34	1.38	1.04	3.15	6.35
	Sd.	21.64	11.51	11.67	10.14	17.47	24.40
Financial and non-financial effects							
Experience negative non-financial effects	Mean	86.75	82.47	72.91	84.11	77.66	79.91
	Sd.	33.92	38.04	44.47	36.58	41.67	40.09
Experience positive non-financial effects	Mean	97.89	94.92	65.02	87.85	84.65	83.70
	Sd.	97.89	94.92	65.02	87.85	84.65	83.70
Permanent job loss	Mean	3.41	8.24	3.15	3.74	5.22	8.15
	Sd.	18.17	27.51	17.48	18.98	22.25	27.38
Temporary job loss	Mean	39.76	28.64	11.33	21.29	23.43	24.17
	Sd.	48.96	45.23	31.71	40.96	42.37	42.83
No change in employment	Mean	56.83	63.12	85.52	74.97	71.36	67.68
	Sd.	49.56	48.27	35.21	43.34	45.23	46.79
Experienced a fall in household income	Mean	60.34	57.85	38.62	47.66	42.81	48.63
	Sd.	48.94	49.40	48.71	49.97	49.51	50.00
Agreement with government approach							
Strongly disagree	Mean	0.40	8.43	11.13	4.78	4.13	7.30
	Sd.	6.33	27.80	31.47	21.34	19.92	26.02
Somewhat degree	Mean	2.31	10.63	16.85	8.20	8.27	8.72
	Sd.	15.03	30.84	37.45	27.46	27.55	28.23
Neither agree nor disagree	Mean	5.62	11.69	46.40	29.80	14.07	16.11
	Sd.	23.05	32.14	49.90	45.76	34.79	36.78
Somewhat agree	Mean	28.51	38.31	21.67	28.35	41.83	36.68
	Sd.	45.17	48.64	41.22	45.09	49.35	48.22
Strongly agree	Mean	63.15	30.94	3.94	28.87	31.69	31.18

	Sd.	48.26	46.25	19.47	45.34	46.55	46.35
Effectiveness of containment measures							
Shutting down schools	Mean	75.80	78.16	48.47	66.25	54.63	74.50
	Sd.	42.85	41.34	50.00	47.31	49.81	43.61
Shutting down public transport	Mean	71.59	74.62	56.75	37.49	65.16	73.18
	Sd.	45.12	43.54	49.57	48.43	47.67	44.33
Shutting down non-essential businesses	Mean	79.22	73.08	55.37	33.75	65.06	68.06
	Sd.	40.60	44.37	49.74	47.31	47.70	46.65
Limiting mobility outside home	Mean	75.30	74.43	62.66	49.64	68.80	68.63
	Sd.	43.15	43.65	48.39	50.02	46.35	46.42
Forbidding mass gatherings	Mean	80.02	86.21	70.25	84.11	80.22	78.67
	Sd.	40.01	34.50	45.74	36.58	39.86	40.98
Introducing fines for citizens	Mean	73.29	73.28	48.67	71.55	59.06	57.82
	Sd.	44.27	44.27	50.01	45.14	49.20	49.41
Requiring masks to be worn outside by everyone	Mean	84.04	74.04	52.91	81.41	32.38	64.27
	Sd.	36.65	43.86	49.94	38.92	46.82	47.94
Beliefs and perceptions							
Fraction of infected people	Mean	11.87	19.34	32.74	13.83	23.13	26.81
	Sd.	16.95	22.00	23.12	19.25	22.43	26.85
Probability of being infected with Covid 19	Mean	9.99	13.74	19.82	10.72	22.26	21.48
	Sd.	16.61	22.53	22.52	17.62	26.21	28.25
Probability of infected people with no symptom	Mean	21.64	41.19	41.07	29.46	33.62	40.06
	Sd.	23.03	27.57	26.55	25.70	24.86	28.50
Probability of serious illness. w/o hospitalization	Mean	22.33	31.35	32.68	29.03	36.16	40.87
	Sd.	22.98	25.17	23.27	25.56	24.40	27.56
Probability of a serious illness. hospitalization	Mean	35.40	31.12	28.16	28.79	31.79	40.38
	Sd.	30.81	26.33	23.47	27.93	25.17	29.63
Probability of an infected people would die	Mean	19.18	25.12	15.34	15.41	24.56	30.39
	Sd.	24.86	27.98	20.75	22.70	26.46	30.34
Male	Mean	49.00	50.86	48.17	50.16	49.16	43.45
	Sd.	50.02	50.02	49.99	50.03	50.02	49.59

Source: Belot et al. (2020)'s data and authors' calculation

Table OA2: Individual happiness during the covid-19 pandemic (Chinese sample, marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Extremely unhappy	Moderately happy	Slightly unhappy	Neither happy nor unhappy	Slightly happy	Moderately happy	Extremely happy
Negative non-financial effects	0.041*** [0.009]	0.086*** [0.015]	0.124*** [0.019]	0.033*** [0.007]	-0.070*** [0.012]	-0.144*** [0.021]	-0.070*** [0.012]
Positive non-financial effects	-0.002 [0.013]	-0.005 [0.028]	-0.007 [0.040]	-0.002 [0.011]	0.004 [0.023]	0.008 [0.047]	0.004 [0.023]
Job loss							
Temporary job lost	0.008 [0.008]	0.018 [0.019]	0.026 [0.031]	0.008 [0.012]	-0.014 [0.014]	-0.031 [0.036]	-0.015 [0.020]
No job lost	0.004 [0.008]	0.008 [0.019]	0.013 [0.031]	0.005 [0.012]	-0.006 [0.014]	-0.015 [0.037]	-0.008 [0.020]
Experienced a fall in household income	0.013*** [0.005]	0.027*** [0.009]	0.039*** [0.012]	0.010*** [0.004]	-0.022*** [0.007]	-0.045*** [0.014]	-0.022*** [0.007]
Agreement with the current Government's approach							
Somewhat degree	0.018 [0.064]	0.021 [0.082]	0.013 [0.058]	-0.010 [0.034]	-0.019 [0.075]	-0.018 [0.075]	-0.005 [0.020]
Neither agree nor disagree	-0.031 [0.058]	-0.050 [0.077]	-0.049 [0.059]	0.007 [0.030]	0.045 [0.071]	0.058 [0.075]	0.019 [0.021]
Somewhat agree	-0.031 [0.058]	-0.049 [0.076]	-0.049 [0.057]	0.007 [0.029]	0.045 [0.070]	0.057 [0.072]	0.019 [0.020]
Strongly agree	-0.043 [0.058]	-0.074 [0.076]	-0.084 [0.057]	-0.002 [0.029]	0.066 [0.070]	0.099 [0.072]	0.038* [0.020]
Effectiveness of measures (aggregate, z-score)	-0.005** [0.002]	-0.010** [0.005]	-0.015** [0.006]	-0.004** [0.002]	0.008** [0.004]	0.017** [0.008]	0.008** [0.004]
Belief							
Fraction of infected people	-0.000** [0.000]	-0.001** [0.000]	-0.001** [0.000]	-0.000** [0.000]	0.001** [0.000]	0.001** [0.001]	0.001** [0.000]

Probability of being infected	-0.000	-0.000	-0.001	-0.000	0.000	0.001	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]
Probability of infected people with no symptom	0.000	0.000	0.000	0.000	-0.000	-0.001	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of serious illness without requiring hospitalization	0.000***	0.001***	0.001***	0.000**	-0.000***	-0.001***	-0.000***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of a serious illness that requires hospitalization	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of an infected people would die	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Male	0.003	0.007	0.010	0.003	-0.006	-0.012	-0.006
	[0.004]	[0.007]	[0.011]	[0.003]	[0.006]	[0.012]	[0.006]
Income groups							
Second quintile	-0.012	-0.022	-0.027*	-0.003	0.020	0.032	0.013
	[0.008]	[0.014]	[0.017]	[0.003]	[0.012]	[0.019]	[0.008]
Third quintile	-0.015*	-0.029**	-0.037**	-0.005	0.025**	0.042**	0.018**
	[0.008]	[0.014]	[0.017]	[0.004]	[0.012]	[0.020]	[0.009]
Forth quintile	-0.021***	-0.041***	-0.056***	-0.012**	0.035***	0.065***	0.030***
	[0.008]	[0.014]	[0.018]	[0.005]	[0.011]	[0.020]	[0.010]
Firth quintile	-0.021**	-0.041***	-0.055***	-0.011**	0.034***	0.064***	0.030***
	[0.008]	[0.015]	[0.019]	[0.006]	[0.012]	[0.022]	[0.011]
Preferred not to say	-0.023	-0.047	-0.066	-0.016	0.039	0.076	0.037
	[0.027]	[0.066]	[0.116]	[0.056]	[0.043]	[0.137]	[0.084]
Number of observations	996						

Note: Dependent variable is ordinal degree of happiness ranging from extremely unhappy to extremely happy. Standard errors in brackets; * p < 0.1, ** p < 0.05, *** p < 0.01. Negative non-financial effect and positive non-financial effect are two dummy variables if individuals experienced negative felling or enjoy positive activities during the pandemic. The reference group for job loss variables is groups of those lost job permanently because of the covid-19. Experienced a fall in household income is a dummy variable indicating those who experienced reduction in household income because of the pandemic. The reference groups for degree of agreement with government approach is those who strongly disagree (with the government approach). Effectiveness of containment measures is the number of measures that respondents think to be effective to contain virus. We calculate z-score for this variable. The reference group for income groups is group of those who are in the first quintile (poorest). In all specifications, we controlled for individual age, living arrangement, whether they contacted with any infected person,

whether they had any covid-19 symptom, whether they accessed to open air areas in their living areas, whether they travelled abroad since January 2020, and whether they kept distance from their colleagues and regions they live.

Source: Belot et al. (2020)'s data and authors' estimations

Table OA3: Individual happiness during the covid-19 pandemic (Korean sample, marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Extremely unhappy	Moderately happy	Slightly unhappy	Neither happy nor unhappy	Slightly happy	Moderately happy	Extremely happy
Negative non-financial effects	0.078*** [0.013]	0.095*** [0.015]	0.087*** [0.013]	-0.104*** [0.017]	-0.058*** [0.010]	-0.077*** [0.013]	-0.021*** [0.006]
Positive non-financial effects	-0.031** [0.012]	-0.038*** [0.015]	-0.035*** [0.013]	0.042** [0.016]	0.023** [0.009]	0.031** [0.012]	0.008** [0.004]
Job loss							
Temporary job lost	-0.151*** [0.052]	-0.105*** [0.024]	-0.025* [0.014]	0.190*** [0.051]	0.043*** [0.010]	0.041*** [0.009]	0.007** [0.003]
No job lost	-0.169*** [0.053]	-0.127*** [0.024]	-0.046*** [0.013]	0.216*** [0.051]	0.056*** [0.009]	0.058*** [0.009]	0.011*** [0.003]
Experienced a fall in household income	0.035*** [0.009]	0.042*** [0.010]	0.039*** [0.009]	-0.046*** [0.011]	-0.026*** [0.007]	-0.034*** [0.009]	-0.009*** [0.003]
Agreement with the current Government's approach							
Somewhat degree	-0.101** [0.045]	-0.064** [0.025]	-0.007 [0.011]	0.124** [0.050]	0.024** [0.010]	0.021** [0.009]	0.003* [0.002]
Neither agree nor disagree	-0.140*** [0.042]	-0.106*** [0.022]	-0.034*** [0.011]	0.183*** [0.044]	0.045*** [0.009]	0.044*** [0.009]	0.008*** [0.003]
Somewhat agree	-0.160*** [0.042]	-0.136*** [0.024]	-0.064*** [0.013]	0.213*** [0.044]	0.064*** [0.010]	0.069*** [0.011]	0.015*** [0.005]
Strongly agree	-0.152*** [0.042]	-0.124*** [0.023]	-0.051*** [0.012]	0.202*** [0.044]	0.055*** [0.010]	0.058*** [0.010]	0.012*** [0.004]
Effectiveness of measures (aggregate, z-score)	-0.001 [0.004]	-0.001 [0.005]	-0.001 [0.005]	0.001 [0.006]	0.001 [0.003]	0.001 [0.004]	0.000 [0.001]
Belief							
Fraction of infected people	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]

Probability of being infected	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of infected people with no symptom	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of serious illness without requiring hospitalization	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of a serious illness that requires hospitalization	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of an infected people would die	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Male	0.018**	0.022**	0.020**	-0.024**	-0.013**	-0.018**	-0.005**
	[0.008]	[0.009]	[0.008]	[0.010]	[0.006]	[0.008]	[0.002]
Income groups							
Second quintile	-0.001	-0.001	-0.001	0.001	0.000	0.001	0.000
	[0.013]	[0.015]	[0.012]	[0.019]	[0.009]	[0.011]	[0.003]
Third quintile	-0.015	-0.018	-0.016	0.021	0.011	0.014	0.004
	[0.012]	[0.015]	[0.013]	[0.017]	[0.009]	[0.011]	[0.003]
Forth quintile	-0.015	-0.018	-0.016	0.020	0.011	0.014	0.004
	[0.013]	[0.015]	[0.013]	[0.017]	[0.009]	[0.011]	[0.003]
Firth quintile	-0.014	-0.017	-0.015	0.020	0.010	0.013	0.004
	[0.013]	[0.016]	[0.014]	[0.018]	[0.010]	[0.012]	[0.003]
Preferred not to say	-0.026	-0.033	-0.031	0.034*	0.021	0.028	0.008
	[0.016]	[0.022]	[0.023]	[0.019]	[0.015]	[0.021]	[0.007]
Number of observations	963						

Note: See note to Table OA2

Source: Belot et al. (2020)'s data and authors' estimations

Table OA4: Individual happiness during the covid-19 pandemic (Japanese sample, marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Extremely unhappy	Moderately happy	Slightly unhappy	Neither happy nor unhappy	Slightly happy	Moderately happy	Extremely happy
Negative non-financial effects	0.045*** [0.010]	0.045*** [0.009]	0.054*** [0.011]	-0.026*** [0.007]	-0.058*** [0.011]	-0.046*** [0.010]	-0.014*** [0.004]
Positive non-financial effects	-0.020** [0.008]	-0.020** [0.008]	-0.024** [0.010]	0.012** [0.005]	0.026** [0.010]	0.020** [0.008]	0.006** [0.003]
Job loss							
Temporary job lost	-0.022 [0.030]	-0.019 [0.024]	-0.019 [0.022]	0.019 [0.027]	0.023 [0.027]	0.015 [0.018]	0.004 [0.005]
No job lost	-0.033 [0.028]	-0.030 [0.023]	-0.032 [0.020]	0.026 [0.026]	0.036 [0.025]	0.026 [0.016]	0.007* [0.004]
Experienced a fall in household income	0.017** [0.008]	0.017** [0.008]	0.020** [0.010]	-0.010** [0.005]	-0.022** [0.010]	-0.017** [0.008]	-0.005* [0.003]
Agreement with the current Government's approach							
Somewhat degree	-0.054** [0.021]	-0.043*** [0.016]	-0.035*** [0.012]	0.053** [0.021]	0.046*** [0.016]	0.027*** [0.010]	0.006** [0.003]
Neither agree nor disagree	-0.070*** [0.020]	-0.059*** [0.015]	-0.055*** [0.011]	0.064*** [0.020]	0.067*** [0.014]	0.043*** [0.009]	0.011*** [0.003]
Somewhat agree	-0.078*** [0.020]	-0.068*** [0.016]	-0.067*** [0.014]	0.067*** [0.020]	0.079*** [0.016]	0.053*** [0.012]	0.014*** [0.004]
Strongly agree	-0.093*** [0.022]	-0.089*** [0.020]	-0.100*** [0.027]	0.063*** [0.022]	0.110*** [0.026]	0.084*** [0.027]	0.025** [0.011]
Effectiveness of measures (aggregate, z-score)	-0.005 [0.003]	-0.005 [0.003]	-0.005 [0.004]	0.003 [0.002]	0.006 [0.004]	0.005 [0.003]	0.001 [0.001]
Belief							
Fraction of infected people	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]

Probability of being infected	0.001***	0.001***	0.001***	-0.000**	-0.001***	-0.001***	-0.000**
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of infected people with no symptom	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of serious illness without requiring hospitalization	-0.000*	-0.000*	-0.000*	0.000*	0.000*	0.000*	0.000*
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of a serious illness that requires hospitalization	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of an infected people would die	0.001***	0.001***	0.001***	-0.000***	-0.001***	-0.001***	-0.000***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Male	0.033***	0.033***	0.040***	-0.019***	-0.042***	-0.033***	-0.010***
	[0.008]	[0.008]	[0.009]	[0.006]	[0.010]	[0.008]	[0.003]
Income groups							
Second quintile	0.005	0.005	0.006	-0.003	-0.007	-0.005	-0.002
	[0.011]	[0.011]	[0.013]	[0.007]	[0.014]	[0.011]	[0.003]
Third quintile	0.007	0.007	0.008	-0.005	-0.009	-0.007	-0.002
	[0.011]	[0.011]	[0.013]	[0.008]	[0.014]	[0.011]	[0.003]
Forth quintile	-0.009	-0.010	-0.012	0.004	0.013	0.011	0.003
	[0.011]	[0.012]	[0.015]	[0.005]	[0.015]	[0.013]	[0.004]
Firth quintile	-0.005	-0.006	-0.007	0.003	0.007	0.006	0.002
	[0.012]	[0.012]	[0.015]	[0.006]	[0.016]	[0.013]	[0.004]
Preferred not to say	0.006	0.006	0.007	-0.004	-0.007	-0.006	-0.002
	[0.023]	[0.022]	[0.025]	[0.016]	[0.028]	[0.021]	[0.006]
Number of observations	1013						

Note: See note to Table OA2

Source: Belot et al. (2020)'s data and authors' estimations

Table OA5: Individual happiness during the covid-19 pandemic (Italian sample, marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Extremely unhappy	Moderately happy	Slightly unhappy	Neither happy nor unhappy	Slightly happy	Moderately happy	Extremely happy
Negative non-financial effects	0.142*** [0.018]	0.110*** [0.013]	0.049*** [0.007]	-0.111*** [0.015]	-0.060*** [0.008]	-0.102*** [0.013]	-0.027*** [0.007]
Positive non-financial effects	-0.077*** [0.026]	-0.060*** [0.020]	-0.027*** [0.009]	0.061*** [0.021]	0.033*** [0.012]	0.056*** [0.019]	0.015** [0.006]
Job loss							
Temporary job lost	-0.059** [0.028]	-0.038** [0.016]	-0.012*** [0.004]	0.049** [0.023]	0.021** [0.009]	0.032** [0.013]	0.007** [0.003]
No job lost	-0.061** [0.029]	-0.040** [0.016]	-0.013*** [0.004]	0.050** [0.024]	0.022** [0.009]	0.034*** [0.013]	0.008** [0.003]
Experienced a fall in household income	0.042*** [0.013]	0.032*** [0.010]	0.014*** [0.005]	-0.033*** [0.010]	-0.018*** [0.006]	-0.030*** [0.010]	-0.008*** [0.003]
Agreement with the current Government's approach							
Somewhat degree	-0.085** [0.038]	-0.041** [0.017]	-0.002 [0.005]	0.070** [0.031]	0.023** [0.010]	0.030** [0.013]	0.006* [0.003]
Neither agree nor disagree	-0.119*** [0.037]	-0.066*** [0.018]	-0.012 [0.008]	0.098*** [0.029]	0.036*** [0.010]	0.051*** [0.015]	0.011** [0.004]
Somewhat agree	-0.113*** [0.035]	-0.061*** [0.015]	-0.010** [0.005]	0.094*** [0.028]	0.033*** [0.009]	0.047*** [0.011]	0.009*** [0.003]
Strongly agree	-0.139*** [0.036]	-0.085*** [0.017]	-0.023*** [0.007]	0.115*** [0.028]	0.047*** [0.010]	0.070*** [0.014]	0.016*** [0.004]
Effectiveness of measures (aggregate, z-sco	-0.009 [0.007]	-0.007 [0.005]	-0.003 [0.002]	0.007 [0.006]	0.004 [0.003]	0.006 [0.005]	0.002 [0.001]
Belief							
Fraction of infected people	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]

Probability of being infected	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of infected people with no symptom	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of serious illness without requiring hospitalization	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of a serious illness that requires hospitalization	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of an infected people would die	0.001**	0.000**	0.000**	-0.000**	-0.000**	-0.000**	-0.000**
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Male	-0.015	-0.012	-0.005	0.012	0.006	0.011	0.003
	[0.011]	[0.009]	[0.004]	[0.009]	[0.005]	[0.008]	[0.002]
Income groups							
Second quintile	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	[0.020]	[0.015]	[0.007]	[0.016]	[0.008]	[0.014]	[0.004]
Third quintile	-0.001	-0.001	-0.000	0.001	0.001	0.001	0.000
	[0.019]	[0.015]	[0.007]	[0.015]	[0.008]	[0.014]	[0.004]
Forth quintile	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	[0.019]	[0.015]	[0.007]	[0.015]	[0.008]	[0.014]	[0.004]
Firth quintile	-0.008	-0.006	-0.003	0.006	0.003	0.006	0.002
	[0.021]	[0.017]	[0.008]	[0.017]	[0.009]	[0.016]	[0.004]
Preferred not to say	0.079	0.046*	0.011**	-0.064	-0.025*	-0.038*	-0.009*
	[0.058]	[0.027]	[0.005]	[0.046]	[0.015]	[0.021]	[0.005]
Number of observations	1044						

Note: See note to Table OA2

Source: Belot et al. (2020)'s data and authors' estimations

Table OA6: Individual happiness during the covid-19 pandemic (British sample, marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Extremely unhappy	Moderately happy	Slightly unhappy	Neither happy nor unhappy	Slightly happy	Moderately happy	Extremely happy
Negative non-financial effects	0.109*** [0.014]	0.110*** [0.013]	0.085*** [0.009]	-0.002 [0.006]	-0.071*** [0.009]	-0.176*** [0.016]	-0.056*** [0.009]
Positive non-financial effects	-0.057*** [0.012]	-0.058*** [0.012]	-0.045*** [0.009]	0.001 [0.003]	0.037*** [0.008]	0.093*** [0.019]	0.029*** [0.007]
Job loss							
Temporary job lost	0.001 [0.021]	0.001 [0.020]	0.000 [0.014]	-0.000 [0.003]	-0.000 [0.014]	-0.001 [0.030]	-0.000 [0.008]
No job lost	-0.016 [0.021]	-0.016 [0.020]	-0.012 [0.014]	0.001 [0.003]	0.011 [0.013]	0.026 [0.030]	0.008 [0.008]
Experienced a fall in household income	0.017* [0.009]	0.017* [0.010]	0.013* [0.007]	-0.000 [0.001]	-0.011* [0.006]	-0.027* [0.015]	-0.009* [0.005]
Agreement with the current Government's approach							
Somewhat degree	-0.142** [0.055]	-0.054*** [0.018]	0.008 [0.011]	0.064*** [0.024]	0.054*** [0.019]	0.062*** [0.021]	0.008** [0.003]
Neither agree nor disagree	-0.196*** [0.052]	-0.097*** [0.018]	-0.013 [0.013]	0.083*** [0.023]	0.087*** [0.017]	0.116*** [0.022]	0.019*** [0.005]
Somewhat agree	-0.218*** [0.051]	-0.121*** [0.017]	-0.031** [0.012]	0.085*** [0.023]	0.103*** [0.017]	0.152*** [0.018]	0.029*** [0.005]
Strongly agree	-0.232*** [0.051]	-0.140*** [0.018]	-0.049*** [0.014]	0.081*** [0.023]	0.114*** [0.017]	0.185*** [0.021]	0.040*** [0.007]
Effectiveness of measures (aggregate, z-score)	-0.004 [0.004]	-0.004 [0.004]	-0.003 [0.003]	0.000 [0.000]	0.003 [0.003]	0.007 [0.007]	0.002 [0.002]
Belief							
Fraction of infected people	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]

Probability of being infected	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of infected people with no symptom	-0.000*	-0.000*	-0.000*	0.000	0.000*	0.001*	0.000*
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of serious illness without requiring hospitalization	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of a serious illness that requires hospitalization	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of an infected people would die	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Male	-0.013	-0.013	-0.010	0.000	0.009	0.021	0.007
	[0.008]	[0.008]	[0.006]	[0.001]	[0.005]	[0.013]	[0.004]
Income groups							
Second quintile	-0.022	-0.022	-0.016	0.001	0.014	0.034	0.010
	[0.014]	[0.014]	[0.010]	[0.002]	[0.009]	[0.021]	[0.006]
Third quintile	-0.018	-0.017	-0.013	0.002	0.012	0.027	0.008
	[0.014]	[0.014]	[0.010]	[0.002]	[0.009]	[0.021]	[0.006]
Forth quintile	-0.027*	-0.028**	-0.021**	0.001	0.018*	0.044**	0.014**
	[0.014]	[0.014]	[0.011]	[0.002]	[0.009]	[0.022]	[0.007]
Firth quintile	-0.012	-0.011	-0.008	0.001	0.008	0.017	0.005
	[0.015]	[0.015]	[0.010]	[0.002]	[0.010]	[0.022]	[0.006]
Preferred not to say	0.057	0.041	0.020**	-0.018	-0.032	-0.055	-0.013*
	[0.046]	[0.028]	[0.010]	[0.018]	[0.023]	[0.036]	[0.008]
Number of observations	1015						

Note: See note to Table OA2

Source: Belot et al. (2020)'s data and authors' estimations

Table OA7: Individual happiness during the covid-19 pandemic (American sample, marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Extremely unhappy	Moderately happy	Slightly unhappy	Neither happy nor unhappy	Slightly happy	Moderately happy	Extremely happy
Negative non-financial effects	0.086*** [0.013]	0.091*** [0.013]	0.059*** [0.008]	0.009* [0.005]	-0.038*** [0.006]	-0.130*** [0.016]	-0.077*** [0.012]
Positive non-financial effects	-0.036*** [0.012]	-0.038*** [0.012]	-0.024*** [0.008]	-0.004 [0.002]	0.016*** [0.005]	0.054*** [0.017]	0.032*** [0.011]
Job loss							
Temporary job lost	0.000 [0.019]	0.000 [0.019]	0.000 [0.011]	-0.000 [0.001]	-0.000 [0.009]	-0.000 [0.026]	-0.000 [0.014]
No job lost	-0.016 [0.019]	-0.016 [0.019]	-0.010 [0.011]	-0.001 [0.001]	0.007 [0.009]	0.023 [0.026]	0.013 [0.014]
Experienced a fall in household income	0.024** [0.010]	0.025** [0.010]	0.016** [0.007]	0.002 [0.002]	-0.011** [0.004]	-0.036** [0.014]	-0.021** [0.009]
Agreement with the current Government's approach							
Somewhat degree	0.046 [0.031]	0.033 [0.022]	0.012 [0.009]	-0.015 [0.010]	-0.020 [0.013]	-0.041 [0.028]	-0.015 [0.011]
Neither agree nor disagree	-0.032 [0.023]	-0.031 [0.021]	-0.018 [0.011]	0.003 [0.005]	0.015 [0.011]	0.042 [0.027]	0.020 [0.013]
Somewhat agree	-0.035* [0.021]	-0.034* [0.018]	-0.019** [0.009]	0.003 [0.005]	0.017* [0.010]	0.046* [0.024]	0.022** [0.011]
Strongly agree	-0.053** [0.021]	-0.056*** [0.019]	-0.036*** [0.010]	-0.003 [0.006]	0.025** [0.010]	0.079*** [0.025]	0.043*** [0.012]
Effectiveness of measures (aggregate, z-score)	0.002 [0.004]	0.002 [0.004]	0.001 [0.003]	0.000 [0.000]	-0.001 [0.002]	-0.003 [0.006]	-0.002 [0.004]
Belief							
Fraction of infected people	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	0.000 [0.000]	0.001 [0.000]	0.000 [0.000]

Probability of being infected	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of infected people with no symptom	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of serious illness without requiring hospitalization	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of a serious illness that requires hospitalization	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Probability of an infected people would die	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Male	-0.002	-0.002	-0.002	-0.000	0.001	0.004	0.002
	[0.009]	[0.009]	[0.006]	[0.001]	[0.004]	[0.013]	[0.008]
Income groups							
Second quintile	-0.032*	-0.030**	-0.016**	0.003	0.015*	0.040**	0.020**
	[0.017]	[0.015]	[0.008]	[0.003]	[0.008]	[0.020]	[0.010]
Third quintile	-0.043***	-0.041***	-0.024***	0.002	0.019***	0.057***	0.030***
	[0.016]	[0.015]	[0.009]	[0.004]	[0.007]	[0.020]	[0.011]
Forth quintile	-0.042**	-0.041***	-0.023***	0.002	0.019**	0.056***	0.029***
	[0.017]	[0.015]	[0.009]	[0.004]	[0.008]	[0.021]	[0.011]
Firth quintile	-0.048***	-0.047***	-0.028***	0.001	0.022***	0.066***	0.036***
	[0.018]	[0.017]	[0.010]	[0.004]	[0.008]	[0.024]	[0.013]
Preferred not to say	-0.021	-0.019	-0.010	0.003	0.010	0.025	0.012
	[0.040]	[0.038]	[0.021]	[0.004]	[0.018]	[0.051]	[0.026]
Number of observations	1054						

Note: See note to Table OA2

Source: Belot et al. (2020)'s data and authors' estimations